

US EPA ARCHIVE DOCUMENT

SECTION H PERSONNEL TRAINING

H.1 OUTLINE OF TRAINING PROGRAM

A combination of documented on-the-job training and formal "classroom training" is provided for all new employees. In addition, refresher training is provided on an annual basis. See attachment H-4 for complete course outlines. Training may include the following, depending upon the requirements of the position:

1. Generator requirements
2. Labeling (EPA and DOT)
3. Use of manifest and manifest system
4. Forklift operator training
5. Contingency plan implementation
6. Spill response, SPCC and Storm Water Awareness training
7. Shredder operator training
8. Acid/base handling and treatment (as appropriate for job assignment)
9. Cyanide treatment (as appropriate)
10. Reactor operation (treatment of water reactive) (as appropriate for job assignment)
11. Flammable liquid handling
12. Grounding and bonding
13. Fire extinguisher training
14. Internal operating procedures
15. Respirator training
16. Respirator fit testing
17. Sampling procedures
18. Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)
19. Sulfide treatment (as appropriate to job assignment)
20. Communications
21. Department of transportation regulations
22. Incompatible wastes- segregation and handling
23. Hazard communications program
24. NFPA warning system
25. Handling compressed gas cylinders including anhydrous ammonia

Training is accomplished in many different ways. New employees receive classroom instruction and are assigned to experienced employees, deemed Competent Persons, for further hands-on training.

The Industrial Commission of Ohio has presented training on the Safe Handling of Flammable Liquids, Forklift Operations, Respirator Training, and Respirator Fit Testing.

Seminars and other training sessions presented by outside organizations are used for selected employee training. Examples include the Greater Cincinnati Hazardous Material Control Committee Spill exercise, Cincinnati Chamber of Commerce seminars, American Red Cross, and various other trade organization seminars.

Fire Extinguisher Service, which services our extinguishers and fire suppression system, provides further extinguisher training.

Internal training is provided by various in house resources. Overall training is monitored by the EH&S Manager. The individual in this position must have at least five years experience in the environmental, health and safety field. Other trainers include, are not limited to, the Plant Manager (with over twenty years of experience), Quality Assurance Director (with over fifteen years of experience) and foreman with at least 3 years experience. All designated trainers are classified as a "Competent Person" by EEI as they possess the training, experience, skills and demonstrated knowledge exhibited for the applicable task.

Personnel who perform daily and weekly inspections are trained by the Plant Manager. Training is performed by inspecting the facility with the Plant Manager. The Plant Manager reviews the inspection form instructions with the trainee as various situations are presented, such as leaning drums, aisle space problems, potential leaking drums, etc.

Employees are required to sign an attendance record to document training and completion certificate generated upon a successful proficiency assessment. See Attachment H-1 for examples.

H.1a Job Title/Job Descriptions

The job title and job description of each employee whose position at the facility is related to hazardous waste management is presented below. The training required for each position is presented in Attachment H-2.

Plant Manager

Job Description:

- Supervise all plant activities
- Ensure compliance with all safety policies and procedures
- Train new employees
- Provide refresher training
- Act as on-site Emergency Coordinator
- Ensure compliance with all TSD regulations

Qualifications and Training:

Must have Associate Degree or equivalent plus three years experience in hazardous waste. complete in-house training as required

Clerical

Job Description:

- Operate computer system
- Keep operating log
- Print bar code labels
- Print HCT tickets
- File certification letters
- Field records of compatibility testing

Qualifications and Training:

High School education required
Computer experience helpful- not necessary
Type 20 words per minute
Complete in-house training regarding recordkeeping

Quality Assurance Director

Job Description:

- Supervise QA Department including laboratory
- Obtain off-site approvals
- Ensure compliance with analysis plan

Qualifications and Training:

Associate Degree- minimum two years experience in hazardous waste industry or High School plus four years experience in hazardous waste industry including previous QA experience.

Quality Assurance Technician

Job Description:

- Perform QA checks on incoming waste per analysis plan
- Resolve discrepancies
- Log in waste shipments in QA file

Qualifications and Training:

Two years college chemistry or three years experience in hazardous WASTE industry including previous QA experience.

Quality Assurance Lab Technician

Job Description:

- Perform laboratory analysis for facility operation per analysis plan
- Keep laboratory records
- Perform treatability tests

Qualifications and Training:

Associate Degree in Chemistry or Environmental Technology or similar field.

Shift General Foreman

Job Description:

- Supervise hourly employees in handling and treatment of wastes
- Ensure compliance of all employees with company policies and procedures
- Prepare shipments for off-site disposal

Qualifications and Training:

High School education plus minimum of two years experience in hazardous waste or one year experience at EEI after completion of all training programs and procedures.

Chemical Treatment Foreman

Job Description:

- Supervise treatment of acids, bases, cyanides, oxidizers, water reactives, sulfides, acid chlorides, and solvents

Qualifications and Training:

High School education with two years of experience at EEI in all phases of waste treatment. Must have completed extensive training in all treatment procedures.

Chemical Treatment Technician

Job Description:

- Perform treatment at the direction of Chemical Treatment Foreman.

Qualifications and Training:

High School education or GED.
Completion of training to all procedures relative to treatment of which he may be assigned.

Waste Technician- General

Job Description:

- Perform various duties as back-up man at Foreman's direction.
- Unload trucks.
- Forklift operator
- Pump solvents

Qualifications and Training:

High School education and general chemical safety experience required.
Completed EEI classroom and on-the-job training.

Waste Technician- Solvent Reclaimer

Job Description:

- Responsible for transfer and blending of solvent wastes for fuel blending program.

Qualifications and Training:

High School education
Previous solvent handling experience or one year

EEI experience required.
Completed EEI training

Waste Technician- Shredder

Job Description:

- Process consumer products through shredder

Qualifications and Training:

High School education required
Complete EEI training program
Two months experience on-the-job training

Maintenance

Job Description:

- Responsible for the repair and preventive maintenance of facility equipment
- Housekeeping responsibilities of non-hazardous waste

Qualifications and Training:

High School education required
Complete EEI training program

Waste Technician- Solidifier

Job Description:

- Responsible for the preparation/fixation of waste destined for landfill disposal
- Forklift operator

Qualifications and Training:

High School education required
Complete EEI training program

H.1b Training Content, Frequency and Techniques

New employees are given introductory training (see Section H.1b(1) for content) and training specific to their job position. See Attachment H-2 for the content of training required for the various job positions. All employees receive an annual review of initial training. If an employee's job position or responsibilities change, he will receive continuing training appropriate for the new responsibilities.

Personnel Training Program

- A.1) Facility personnel must successfully complete a program of classroom instruction. Personnel assigned to operate Hazardous Waste Treatment Units are further instructed by an assigned supervisors on the operating procedures for each of the Units. The Protective Measures Determination and Job Hazard Analysis is reviewed, acknowledged and signed by the employee and supervisor. The on the job training continues under direct supervision until the employee is deemed to be competent to perform the operation without direct supervision. The dates of OJT are recorded on the JHA and filed in the employee training file. If change of assignment occurs the same procedure is followed for the new task. The on-the-job training teaches them to perform their duties in a safe and environmental sound manner that ensures the facility's compliance with the requirements of the State and Federal regulations. (see Attachment H-4 for JHAs for schredder and typical operation at treatment tank as an example)
- 2) This program is directed by a person trained in hazardous waste management procedures, and includes instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the position in which they are employed.
- 3) The training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including:
 - a. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
 - b. Communications and alarm systems;
 - c. Response to fires, explosions, or releases;
 - d. Shutdown of operations.
- B. Facility personnel must successfully complete the prescribed program within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (A) of this section. All new employees receive 40 hours classroom training prior to working in the facility.
- C. Facility personnel must take part in an annual review of the initial training, see Section H.1b(a).

D. EEI maintains the following documents and records at the facility:

- 1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job (see Section H-1a and Attachments H-2 and H-3);
- 2) A written job description for each position listed under paragraph (D)(1) of this section (see Section H-1a). This is consistent in its degree of specificity with description of other similar positions and includes the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;
- 3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (D)(1) of this section (see Attachment H-2);
- 4) Records that document that the training or job experience required under paragraphs (A), (B), and (C) of this section has been given to, and completed by, facility personnel (see Attachment H-1 and H-3).

E. Training records on current personnel will be kept until closure of the facility. Training records on former employees will be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

Overall Training Objectives

Participants will, with handout material provided, be able to:

- Identify the various work areas of the EEI facility.
- Identify the employee assembly area following emergency evacuation.
- Identify emergency exit routes in the event of fire or other emergency situation.
- List the agencies to be notified in an emergency.
- List and identify various "acronym" agencies.
- Describe how chemical waste is classified and the importance of accuracy.
- Review a manifest for accuracy.
- Utilize the DOT Emergency Response Guidebook to determine UN numbers.
- List at least five DOT hazard classes.
- Interpret the NFPA 704 standard.
- Correctly select the NFPA 704 standard.
- Select the proper personal protective equipment needed for a specific assignment.
- Discuss how contamination occurs.
- Comprehend and discuss company safety policies.
- Demonstrate knowledge of the MSDS.
- Discuss the importance of accurate recordkeeping.
- Determine hazard potential of a material after reviewing chemistry data.

- Demonstrate knowledge of the types and severity of injuries possible when dealing with hazardous materials.

H.1b(1) Initial Training Program for New Employees

See Attachment H-4 for course outline.

H.1b (2) Continuing Training

All employees receive an annual review of the initial training described above. Continuing training is provided by daily on-the-job training and experience and, as needed, additional training is provided when an employee's job position or responsibilities change. Not all of the above training is repeated annually. Annual training is determined based upon rule changes, accident record and results of employee proficiency testing on initial training subjects. Subjects for which 40% of the employees tested score less than 70% correct are repeated.

H.1c Training Director

Each training program will be under the control of a training director who is responsible for the program. The training director will have a minimum of two years of employee education experience and be deemed competent as an instructor based upon previous documented experience in the areas of instruction and successful completion of a Train The Trainer program. Instructors will be deemed as competent on the basis of previous documented experience in their area of instruction. All components of the training program will be in compliance with the requirements in 40 CFR 264.16 and 40 CFR 265.16.

New employees receive classroom instruction and are assigned to experienced Competent employees for further hand-on training.

Classroom instruction is provided by various in house instructors, details given in H-1.

H.1d Relevance of Training to Job Position

Facility personnel are instructed in hazardous waste management procedures (including contingency plan implementation) relevant to their positions. See Attachment H-2 for the specific training required for the various job positions.

H.1e Training for Emergency Response

Facility personnel are able to respond effectively to emergencies and are familiar with emergency procedures, emergency equipment, and emergency systems. The training program includes the following:

- Procedures for using, inspection, repairing, and replacing facility emergency and monitoring equipment
- Communications and alarm systems
- Response to fires or releases
- Shutdown of operations

Employees are also familiar with contingency plan implementation and use of PPE .

H.2 Implementation of Training Program :

Facility personnel must successfully complete the prescribed program within six months after the date of their employment or assignment to EEI, or to a new position at the facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the necessary training requirements. All new employees receive 40 hours classroom training prior to working in the facility.

Records documenting that the required training has been given to and completed by facility personnel are maintained at EEI.

Attachment

H-1

Attendance Record

**EMPLOYEE TRAINING RECORDS:
REFER TO ON-SITE TRAINING
RECORDS FOR EMPLOYEES**

ATTENDANCE

HAZ COM 2012. BBP, Access to Medical Records, Lead, Arsenic and Cadmium Standard, Contingency Plan. **Gerry Nocks- Instructor**

CLIENT: EEI **Enviromental Enterprises Inc**

DATE: 8 /26 /2013

[illegible]

Attachment

H-2

**Training Requirement for Job
Positions Involving Hazardous
Waste Management**

ATTACHMENT H-2

**TRAINING REQUIREMENT FOR JOB POSITIONS
INVOLVING HAZARDOUS WASTE MANAGEMENT**

SEP 05 2007

Name: _____ Hire Date: _____

Title: Plant Manager

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Flammable liquid handling		
Grounding and bonding		
Internal operating procedures		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Analysis plan		
Computer operation		
Incompatible wastes- segregation and handling		
First Aid and CPR/Hazardous materials injuries		
Reactor operation (treatment of water reactive)		
Cyanide treatment		
Acid/base handling and treatment		
Shredder operator training		
Fire Extinguisher Training		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Shift Foreman

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Flammable liquid handling		
Grounding and bonding		
Internal operating procedures		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Analysis plan		
Computer operation		
Incompatible wastes- segregation and handling		
First Aid and CPR/Hazardous materials injuries		
Acid/base handling and treatment		
Shredder operator training		
Fire Extinguisher Training		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Chemical Treatment Foreman

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Flammable liquid handling		
Grounding and bonding		
Internal operating procedures		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Computer operation		
Incompatible wastes- segregation and handling		
First Aid and CPR/Hazardous materials injuries		
Reactor operation (treatment of water reactive)		
Acid/base handling and treatment		
Shredder operator training		
Fire Extinguisher Training		
Cyanide Treatment, sulfide treatment		
Reactor operation		
Oxidizer treatment		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Chemical Treatment Technician

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Computer operation		
Incompatible wastes- segregation and handling		
Reactor operation (treatment of water reactive)		
Acid/base handling and treatment		
Fire Extinguisher Training		
Cyanide Treatment, sulfide treatment		
Reactor operation		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Quality Assurance Director

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Analysis Plan		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
First Aid and CPR/Hazardous Material Injuries		
Computer operation		
Incompatible wastes- segregation and handling		
Reactor operation (treatment of water reactive)		
Acid/base handling and treatment		
Fire Extinguisher Training		
Cyanide Treatment, sulfide treatment		
Reactor operation		
Shredder operation		
Cyanide treatment		
Sulfide treatment		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Quality Assurance Technician

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Hazardous Material Injuries		
Computer operation		
Incompatible wastes- segregation and handling		
Analysis plan		
Fire Extinguisher Training		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: **Quality Assurance Lab Technician**

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Hazardous Material Injuries		
Incompatible wastes- segregation and handling		
Fire Extinguisher Training		
Acid/base handling and treatment		
Cyanide treatment		
Sulfide treatment		
Flammable liquid handling, grounding and bonding		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Waste Technician- Solvent Reclaimer

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Hazardous Material Injuries		
Incompatible wastes- segregation and handling		
Fire Extinguisher Training		
Acid/base handling and treatment		
Flammable liquid handling, grounding and bonding		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Waste Technician- General

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Hazardous Material Injuries		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Incompatible wastes- segregation and handling		
Fire Extinguisher Training		
Acid/base handling and treatment		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Clerical

Training Required For Position

TRAINING	DATE	INITIALS
4-Hour HAZWOPER Awareness Training: REGULATORY OVERVIEW Contingency plan implementation Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing PERSONAL PROTECTIVE EQUIPMENT Spill response Communications HAZMAT IDENTIFICATON		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Fire Extinguisher Training		
Computer Operation		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Compliance Officer

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Flammable liquid handling		
Grounding and bonding		
Internal operating procedures		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Computer operation		
Incompatible wastes- segregation and handling		
First Aid and CPR/Hazardous materials injuries		
Acid/base handling and treatment		
Conducting inspections of waste inventories		
Fire Extinguisher Training		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Operations Manager

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND ERG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Flammable liquid handling		
Grounding and bonding		
Internal operating procedures		
Recordkeeping (manifests, H-T's, compatibility, lab data, profiles)		
Analysis plan		
Computer operation		
Incompatible wastes- segregation and handling		
First Aid and CPR/Hazardous materials injuries		
Reactor operation (treatment of water reactive)		
Cyanide treatment		
Acid/base handling and treatment		
Shredder operator training		
Fire Extinguisher Training		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

Name: _____ Hire Date: _____

Title: Waste Technician- Shredder

Training Required For Position

TRAINING	DATE	INITIALS
40-Hour HAZWOPER Training: REGULATORY OVERVIEW EPA Labeling Forklift Operator Training (Didactic) Contingency plan implementation Spill response Respirator training (AIR PURIFYING, ATMOSPHERE SUPPLIED) Respirator fit testing Communications Hazard communications program NFPA warning system Lead Standard HAZMAT IDENTIFICATION AND EKG EXERCISE TOXICOLOGY AND EXPOSURE LIMITS/CHEMISTRY OF HAZARDOUS MATERIALS PERSONAL PROTECTIVE EQUIPMENT HEARING CONSERVATION MEDICAL SURVEILLANCE PROGRAM BLOODBORNE PATHOGENS DECONTAMINATION PROCEDURES		
DOT Hazardous Materials General Awareness and Familiarization: Generator requirements Labeling (EPA and DOT) Use of manifest and manifest system Department of Transportation regulations Overview, placard and labeling		
Forklift Operator Training- Hands-on		
Shredder Operation		
Flammable liquid handling, bonding and bonding		
Hazardous Material Injuries		
Recordkeeping (manifests, HCT's, compatibility, lab data, profiles)		
Incompatible wastes- segregation and handling		
Fire Extinguisher Training		
Acid/base handling and treatment		

As of this date, I certify that the above listed training has been completed using both classroom training and on-the-job training to complete the required subjects.

Signature: _____ Date: _____

PROTECTIVE MEASURES DETERMINATION AND JOB HAZARD ANALYSIS

Page 1 of 2

Job Title: Shredder Operator	Name of Process: Shredder Operations
Date Conducted: 03/13/03	Related Operating Procedures Reviewed: Yes <input type="checkbox"/> No <input type="checkbox"/>
Process Description: Upicks boxes and drums of aerosol cans and shreds from a remote location and transfers collected material to drums and/or totes using a pneumatic diaphragm pump.	All Affected Employees Notified: Yes <input type="checkbox"/> No <input type="checkbox"/>

HAZARDS AND PERSONAL PROTECTIVE EQUIPMENT: (Indicate Specific Hazards with Initials)			
Initials	Basic Job Step	Hazard	Remarks/Recommendations
	1. Using forklift, move materials into work area.	1. SB- Struck by forklift E- CO exposure	1. Make sure path of forklift is clear. Do not allow forklift to run when not in use.
	2. Open drum or box containing materials.	2. E- Chemical exposure (skin and inhalation), flammable materials	2. Ground drum prior to opening.
	3. Manually remove liquids from container and toss into conveyor.	3. Q- Repetitive motion, overextending to reach material in container E- Flammable materials	3. Always toss materials into conveyor from behind the dividing wall. Use LEL meters to ensure that levels are not being exceeded.
	4. If necessary, manually move shredded material into conveyor to trash compactor.	4. E- Flammable materials CO- Caught on conveyor	4. When processing aerosols, ensure all equipment is shut down and the LEL meter for the room shows acceptable levels. Use non-sparking plastic shovel to move material into conveyor. Do not use hands to move materials.
	5. Using diaphragm pump, pump liquids into tote from shredder.	5. E- Flammable materials, chemical exposure (skin, inhalation) FS- Trip over hose for pump	5. When processing aerosols, ensure all equipment is shut down and the LEL meter for the room shows acceptable levels. Use gloves when handling hose and pump equipment. Use care when moving around hose to prevent tripping.

PERMIT REQUIRED			
Confined Space	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Pressure/Chemical Pipe Opening	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Lock-out/Tag-out	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Welding/Hot/Burning	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

PROTECTIVE MEASURES DETERMINATION AND JOB HAZARD ANALYSIS

Page 2 of 2

Job Title: Shredder Operator	Name of Process: Shredder Operations
EMPLOYEE NOTIFICATION	
I certify that I understand the hazards involved with the job and will comply with the established safe work practices	
Employee Signature:	Title/Employee #: _____ Date: _____
Supervisor Signature:	Completion of OJT (dates) _____ Date: _____
Approved: Yes No	AUTHORIZATION

I certify that I have conducted a Protective Measures Determination and Job Hazard Analysis of the above named process and have detailed the findings on this form.

Name: Dan McCabe	Signature: _____
Title: Plant Manager	Date: _____
Form Retention Information	
Permanent Retention File: _____	Location: _____
Date Filed: _____	Filed By: _____

EXPLANATION OF ABBREVIATIONS USED IN HAZARD COLUMN			
SE- Struck By Person is either in motion or stationary, but the object that strikes the person is in	SA- Struck Against Person is in motion and object is stationary	CB- Caught Between Also thought of as "pinch points"	
CW- Contact With Person makes contact with something hot, sharp, a chemical or electricity	CB- Contacted By The hot or sharp object, chemical or electricity makes contact with the person	CI- Caught In Person or part of the person's body is caught in an enclosure or hole of some kind	
CO- Caught On Person has part of clothing or body caught on a moving or stationary object	FS- Fall at the Same Level Person falls to the same level at which they are walking	FB- Fall to Below Person falls from one level to a lower level	
O- Overexertion or Repetitive Motion Person is injured by putting too much strain on some part of the body, or this body is used improperly to complete a task	E- Environmental Exposures Person is exposed to fumes, gases, vapors, mists, dusts, temperature extremes, oxygen deficiencies, and noise	Sampling Conducted: Chemical exposure Heat/cold stress Noise	

MODEL MS175 SHREDDER OPERATION

1. Turn on Carbon Filter Unit
3. Make sure that the block in the duct work is in the in position.
4. Be sure LEL system is functional.
5. Turn on nitrogen purge—observe the flow indicator—if no flow--STOP!
6. Start outlet conveyor
7. Start feed conveyor
8. Close fire door to shredder room.
9. Close fire door to acid storage room. NOTE: Do not block your exits.
10. Put on appropriate PPE including respirator.
11. Turn on shredder.
12. Feed materials onto conveyor at approved rate.

NOTES:

Only spark-proof tools may be used in conjunction with this operation. No one is to be in the shredder room while the shredder is in operation. Do not block fire shutter rails--opening to feed conveyor

Periodically check vapor levels with hand-held LEL/oxygen meter to ensure levels are below 40 percent LEL.

When using air-operated vacuum or air operated pumps to collect liquids from sump and transfer to drums or totes, bond the container to the shredder frame. (SEE POLICY on GROUNDING & BONDING)

SHUTDOWN:

1. Turn off power to shredder.
2. Turn off feed conveyor
3. Turn off outlet conveyor
4. Turn off nitrogen purge
5. Securely seal all drums--use spark-proof wrench only.
6. Remove drummed liquids from room and store in appropriate interior storage area.
7. Clean up all debris.
8. Turn off Carbon Filter Unit. (Unit should run at least 15 minutes after turning off shredder.)

SEP 05 2007

MISCELLANEOUS NOTES:

At no time should the shredder be left unattended while materials are in the catch box. If materials are left in the box, flammable vapor will continue to be generated. Steps 1, 2, 3, and 4, AND 5 of the shut-down procedure must be performed **if only to take a break.**

If the shredder stops operating and the LEL monitoring system sounds, PERSONNEL SHOULD stop all further operations until the LEL drops to an acceptable level. THE SHREDDER POWER WILL BE TURNED OFF AT THE PANEL AUTOMATICALLY.

At no time during operations is a standard L.P. gas-operated forklift to be used in shredder room or adjoining operation room. An L.P.S. rated forklift must be used in this room.

SEP 05 2007

Attachment

H-3

Record of Employee Training

**EMPLOYEE TRAINING RECORDS:
REFER TO ON-SITE TRAINING
RECORDS FOR EMPLOYEES**

Attachment

H-4

**Training Program Outlines /
Syllabus**

RAINING

Personal protective equipment I
Levels of protection A, B, C, and D
Types, selection and use
Limitations of equipment
Gloves
Coveralls
Boots
Eye protection
Face and head protection
Maintenance of equipment

ure

Sheets

- H. Respiratory protection
- o Overview
- o Types of respirators
- o Protection factors
- o Limitations
- o Selection
- o Proper use
- o Maintenance & storage
- o Fit testing
- o Medical requirements
- o Discussion
- o Case studies

12:00 Noon - 1:00 P.M.

- I. PPE Demonstration
- o Don & doff Level A PPE
- o Don & doff Level B PPE
- o Don & doff Level C PPE
- o Demonstrate field respirator fit test
- o Demonstrate PPE in Section

- J. Student practice drill
- o Don & doff Level A PPE
- o Don & doff Level B PPE
- o Don & doff Level C PPE
- o Respirator scenarios
- o Discussion
- o Limitations of PPE
- o Adjourn

rol

05 2007

SEP 05 2007

ENVIRONMENTAL ENTERPRISES INCORPORATED
Environmental Assessment Group

FORTY HOUR HAZARDOUS WASTE SITE OPERATIONS TRAINING
HAZWOPER OSHA 29 C.F.R. 1910.120
July 10-14, 1995

DAY ONE

MODULE A

8:00 A.M.

- A. Introduction
 - o Course Overview
 - o OSHA Regulations
 - o EPA Regulations
 - o Internal Safety and Health Structure
 - o Internal Communications
 - o Internal operating organizations
- 9:00 A.M.
 - o Hazard Communication & Training
 - o Labeling and Material Safety Data Sheets
 - o Recordkeeping

MODULE B

10:00 A.M.

- B. Basic Environmental Safety & Health
 - o Environmental considerations
 - o Site characteristics
 - o Environmental agents & types of hazards
 - o Human body functions - basic physiology
 - o Hazard recognition & evaluation
 - o Control technology
- 11:00 Noon
 - o Emergency situations
 - o Recognition
 - o Evaluation
 - o Control
 - o Contingency Planning

LUNCH

12:00 Noon - 1:00 P.M.

MODULE C

1:00 P.M.

- C. Basic Industrial Hygiene
 - o Survey of toxicology
 - o Routes of entry
 - o Target organs
 - o Hazard recognition & evaluation
- 3:00 P.M.
 - o Emergency recognition, evaluation & control

MODULE D

3:30 P.M.

- D. Environmental safety & health
 - o Exposure scenarios
 - Industrial plants
 - Waste sites
 - Transportation accidents
 - o Human protection
 - o Control technology on-site
- 4:30 P.M.
 - o Medical monitoring
- 5:00 P.M.
 - o Adjourn

SEP 05 2007

DAY TWO
MODULE E
8:00 A.M.

- E. Physical hazards
 - o Heat & cold stress
 - o Electricity
 - o Mechanical energy
 - o Radiation
- 9:00 A.M.
 - o Fire & reactions of flammable substances
 - o NFPA fire warning system
 - o Special reactions
 - o Conversion of energy
 - o Uncontrolled reactions
 - o Grounding and bonding
 - o Basics of insipient firefighting

MODULE F
10:00 A.M.

- F. Noise & vibrations
 - o Hazards of noise & OSHA Noise standard
 - o Measurement of noise
 - o Protection against noise
 - o Vibrations
- 11:00 noon
 - o Health effects of vibrations
 - o Hearing loss
 - o Cumulative Trauma Disease
 - o Ergonomics

LUNCH 12:00 Noon - 1:00 P.M.

MODULE G
1:00 P.M.

- G. Chemistry of hazardous substances I
 - o Nomenclature
 - o Organics
 - o Solvents
 - o PCBs
 - o Inorganics
 - o pH system
 - o Metals, including water reactives
 - o Non-metals
- 2:00 P.M.
 - o Elements
 - o Compounds
 - o Sulfide reaction chemistry
 - o Cyanide reaction chemistry
 - o Acid-base reaction chemistry

MODULE F
3:00 P.M.

- F. Chemistry of hazardous substances II
 - o Physical properties
 - o Chemical properties
 - o Physical Reactions
 - o Chemical Reactions
- 4:00 P.M.
 - o Common hazardous reactions
 - o Polymerization
 - o Reduction Oxidation reactions
 - o Heat of solution
 - o Heat of reaction
 - o Detonations and deflagrations
- 5:00 P.M.
 - o Adjourn

SEP 05 2007

DAY THREE

MODULE G
8:00 A.M.

- G. Personal protective equipment I
- o Levels of protection A, B, C, and D
- o Types, selection and use
- o Limitations of equipment
- o Gloves
- o Coveralls
- o Boots
- o Eye protection
- o Face and head protection
- o Maintenance of equipment

MODULE H
10:00 A.M.

- H. Respiratory protection
- o Overview
- o Types of respirators
- o Protection factors
- o Limitations
- o Selection
- o Proper use
- o Maintenance & storage
- o Fit testing
- o Medical requirements
- o Discussion
- o Case studies

11:30

LUNCH

12:00 Noon - 1:00 P.M.

MODULE I.
1:00 P.M.

- I. PPE Demonstration
- o Don & doff Level A PPE
- o Don & doff Level B PPE
- o Don & doff Level C PPE
- o Demonstrate field respirator fit test
- o Demonstrate PPE in Section

2:00 P.M.

MODULE J.
3:00 P.M.

- J. Student practice drill
- o Don & doff Level A PPE
- o Don & doff Level B PPE
- o Don & doff Level C PPE
- o Respirator scenarios
- o Discussion
- o Limitations of PPE
- o Adjourn

4:30 P.M.

5:00 P.M.

SEP 05 2007

DAY FOUR

MODULE K
8:00 A.M.

- K. Confined space
- o Overview
- o Confined space regulations
- o Recognitions of hazards
- o Personal protective equipment
- o Buddy system
- o Rescue

9:30 A.M.

MODULE L
10:00 A.M.

- L. Lock-out/tag-out
- o Overview
- o Regulations
- o Recognition of hazards
- o Control methods

11:30 Noon

LUNCH

12:00 Noon - 1:00 P.M.

MODULE M
1:00 P.M.

- M. Environmental Monitoring
- o Site appraisal
- o Sampling procedures
- o Chain of custody & recordkeeping
- o Weather considerations
- o Contamination transport off-site
- o Emergency response
- o Hazard control
- o Personnel protection

2:30 P.M.

MODULE N
3:00 P.M.

- N. Monitoring Practices
- o Overview
- o Direct reading instruments
- o Colorimetric tubes
- o Oxygen indicator
- o Explosion meter
- o PID meter
- o Carbon monoxide detector
- o Heat Stress measurements
- o Industrial hygiene monitoring
- o Adjourn

4:00 P.M.

5:00 P.M.

SEP 05 2007

DAY FIVE

MODULE O

8:00 A.M.

- O. Hazardous Waste Site Management
 - o Planning
 - o Recordkeeping & manifests
 - o Site Control
 - o Work Zones
 - o Staffing
 - o Security
 - o Incompatible wastes
 - o Emergencies & contingencies
 - o Rescue

9:30 A.M.

MODULE P

10:00 A.M.

- P. Scenario Student Exercises
 - o Overview
 - o Scenario One
 - o Scenario Two
 - o Scenario Three
 - o Scenario Four

12:00 A.M.

LUNCH

12:00 Noon - 1:00 P.M.

MODULE Q

1:00 P.M.

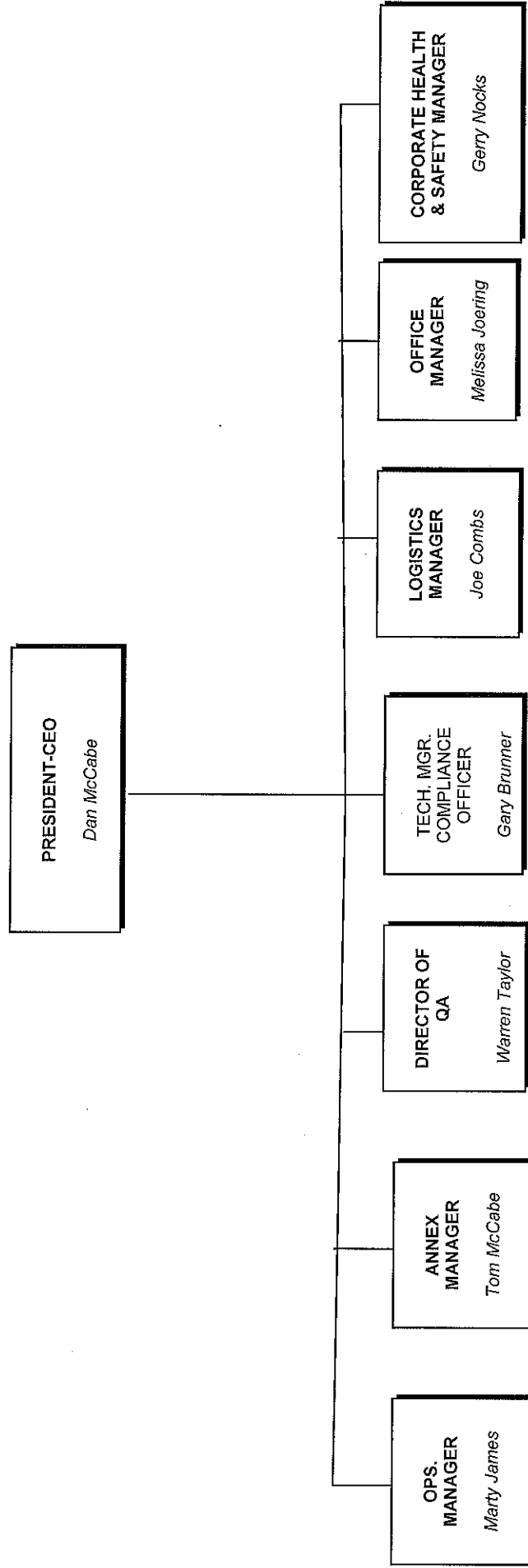
- Q. TSDF SITE TOUR
 - o On-site instruction
 - o Emergency contingency plan
 - o Site specific situations
 - o Routine safety
 - o PPE at plant
 - o Adjourn

5:00

SEP 05 2007

TRAINING RECORDS

ENVIRONMENTAL ENTERPRISES, INC.
MANAGEMENT
ORGANIZATIONAL CHART



ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

DANIEL MCCABE

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

Gerald Nocks CET
Gerald Nocks, CET
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

MARTY JAMES

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

A handwritten signature in cursive script, reading 'Gerald Nocks, CET'.

Gerald Nocks, CET
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

TOM MCCABE

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

**Gerald Nocks, CET
Corporate EH&S Manager**

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

WARREN TAYLOR

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

Gerald Nocks, CET
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

GARY BRUNNER

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

Gerald Nocks, CET
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

JOE COMBS

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

Gerald Nocks COT

Gerald Nocks, COT
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

MELISSA JOERING

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

March 13, 2012

Gerald Nocks C&T

Gerald Nocks, C&T
Corporate EH&S Manager

ENVIRONMENTAL ENTERPRISES INCORPORATED



This is to certify that

GERRY NOCKS

Has successfully completed the course entitled

HAZWOPER 8-Hour Worker Refresher Training

pursuant to OSHA 29 CFR 1910.120

December 16, 2011

Warren Taylor

Warren Taylor
Corporate QA/QC Manager

**EPA
ACKNOWLEDGEMENT
LETTER**



ACKNOWLEDGEMENT OF NOTIFICATION
OF HAZARDOUS WASTE ACTIVITY

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act (RCRA). Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER

OH0083377010

REACKNOWLEDGEMENT

ENVIRONMENTAL ENTERPRISES INCORPORATED
10147 SPRINGFIELD PIKE
CINCINNATI OH 45215

INSTALLATION ADDRESS

4650 SPRING GROVE AVE.
CINCINNATI

OH 45232

BLANK PCB PROFILE

FOR EEI USE ABS: _____ Profile Log: _____ Entered by: _____ Date: _____	ENVIRONMENTAL ENTERPRISES, INC. CONFIDENTIAL PCB WASTE PROFILE Page 1 of 1 <div style="display: flex; justify-content: space-around; align-items: center;"> PCB <div style="border: 1px solid black; padding: 2px 10px;">One Time Only Approval</div> PCB </div>	EEI Approval/Profile # _____ Sales Code: _____
--------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------

Customer Reference# _____

Generator Name: _____ Contact Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Area Code + Phone # _____ - _____ Area Code + Fax # _____ - _____ USEPA ID# _____	Billing Name: _____ Contact Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Area Code + Phone # _____ - _____ Area Code + Fax # _____ - _____
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Name of Waste: _____			
Process Generating: _____			
Date in Storage for Disposal: _____			
Anticipated Volume: _____ Lbs.	_____ Kg.	_____ Drums	<input checked="" type="checkbox"/> One Time
Size and Type of Container: _____		Number of Containers: _____	
DOT Shipping Name: _____			
Hazard Class: _____	UN/NA# _____	Packing Group: _____	Samples Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is this a RCRA Waste? <input type="checkbox"/> Yes <input type="checkbox"/> No	RCRA Code: _____	PCB Waste Code: _____	<input type="checkbox"/> PCB1 <input type="checkbox"/> PCB2
Unique identification numbers for containers. (Attach separate pages if necessary) _____			
List all Serial Numbers for Transformers, Capacitors, or Rectifiers: _____			

Waste Type: (Check only one) Submit separate profiles for each type.

<input type="checkbox"/> Transformers <input type="checkbox"/> Drained? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Flushed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Capacitors Large -- Leaking? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Capacitors Small -- Leaking? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Light Ballasts -- Leaking? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Debris (clothing, rags, wood, metal, etc.) <input type="checkbox"/> Contaminated soil, rock, etc.	<input type="checkbox"/> Empty Drums <input type="checkbox"/> PCB Sludge <input type="checkbox"/> Flushing Oil <input type="checkbox"/> Rectifier <input type="checkbox"/> Transformer Oil <input type="checkbox"/> Lab Pack <input type="checkbox"/> Other	Are free Liquids Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Total Wt. _____ Lbs or Kg. Transformer Liquid Volume: _____ Transformer Size: _____ Length _____ Width _____ Height _____ Additional Description/Comments: _____
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The above information is true and accurate and is based on an analysis of representative sample of the waste in accordance with EPA Guideline Documents SW-846, EPA-600/2-80-018, and EPA 600/4-8-1045 or my thorough knowledge of the waste.

Signature: _____ Title: _____ Date: _____

FOR EEI USE ONLY	Date: _____ Status: <input type="checkbox"/> APP <input type="checkbox"/> REJ Waste Codes: _____ Restricted: <input type="checkbox"/> Yes <input type="checkbox"/> No Price Code: _____ H Code: <input type="checkbox"/> H <input type="checkbox"/> _____ ABS Code: _____ Handling Code: _____ Facility: _____ EEI PSS# _____	Price: _____ per: _____ Plant Comments (Internal): _____ Profile Notes: _____ Special Precautions: _____ Equipment: _____
-------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------

RECOGNITION LETTER

Add to the Beauty



SPRING GROVE VILLAGE

*Mr. Dan McCabe is hereby recognized this day
of June 20th 2012 by Spring Grove Village
Community Council for his excellence in
"Adding To The Beauty" of our neighborhood.*

*On behalf of the council and our entire
neighborhood, we wish to thank you and
commend you to continue in your worthy
efforts to make Spring Grove Village a more
beautiful place to work and reside.*

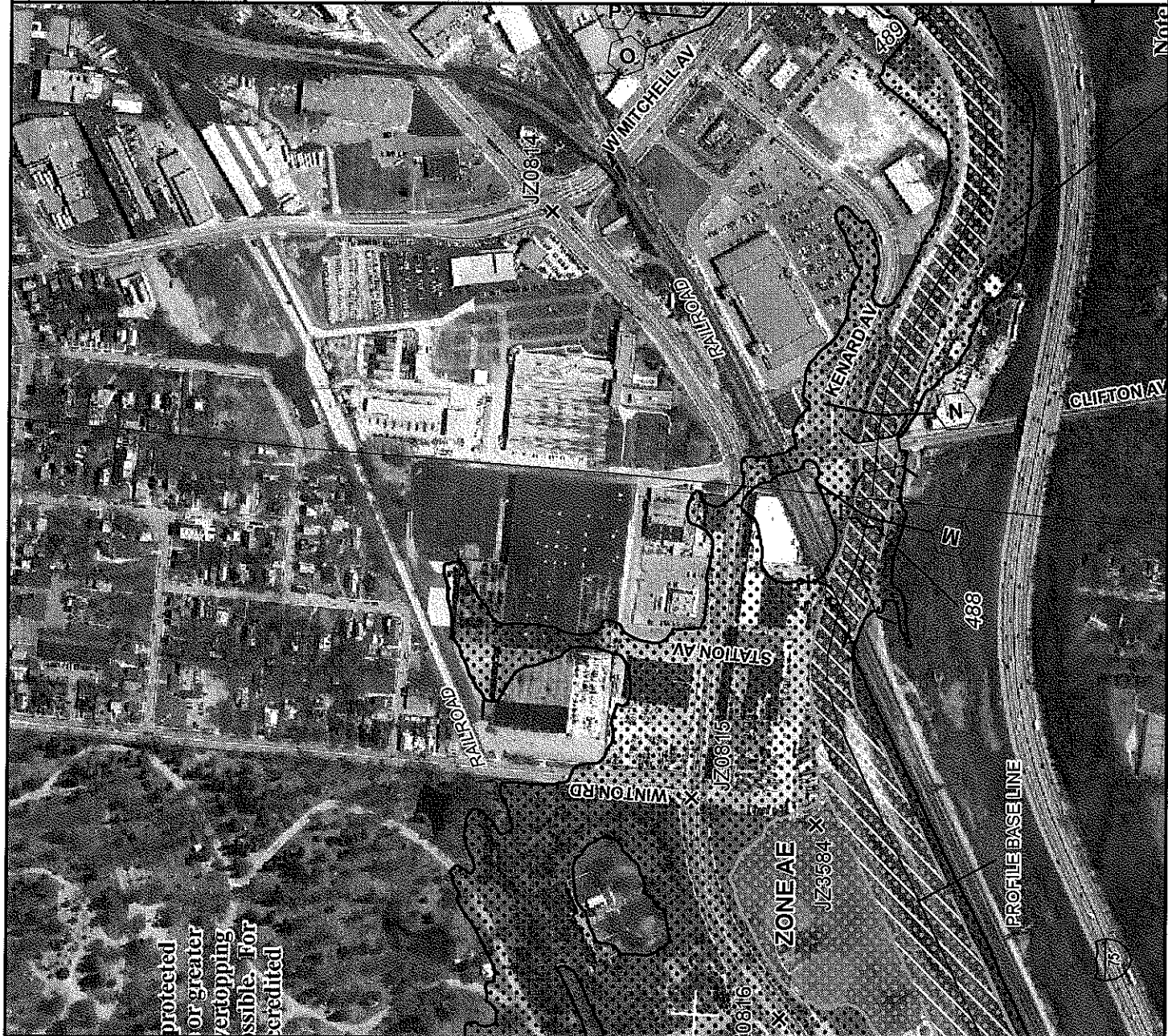
TRAFFIC FLOW MAP

[illegible]

TRAFFIC FLOW
AND ROADWAY SURFACE
SCALE: 1" = 100'

FIGURE 5

FLOOD MAP



protected
or greater
retrofitting
possible for
recredited

National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0217F

FIRM

FLOOD INSURANCE RATE MAP
HAMILTON COUNTY,
OHIO
AND INCORPORATED AREAS

PANEL 217 OF 390
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:	COMMUNITY	NUMBER	PANEL	SUFFIX
	CINCINNATI, CITY OF	390210	0217	F
	SANIT BERNARD, CITY OF	390235	0217	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on Insurance applications for the subject community.



MAP NUMBER
39061C0217F
MAP REVISED
FEBRUARY 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD



The 1% annual chance flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard may include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined

FLOODWAY AREAS IN ZONE AE



The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS



- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

PANEL 0217 F

FIRM

FLOOD INSURANCE RATE MAP

HAMILTON COUNTY,

OHIO

AND INCORPORATED AREAS

PANEL 217 OF 390

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:	COMMUNITY	NUMBER	PANEL	SUFFIX
	CINCINNATI, CITY OF	390210	0217	F
	SANIT BERNARD, CITY OF	390235	0217	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER

39061C0217F

MAP REVISED

FEBRUARY 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined



FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



ZONE X

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER FLOOD AREAS



OTHER AREAS

ZONE X

Areas determined to be outside of the 0.2% annual chance floodplain.

ZONE D

Areas in which flood hazards are undetermined, but possible.



COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS



OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary



Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*

Base Flood Elevation value where uniform within zone; elevation in feet*

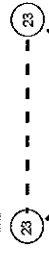
513

(EL 10)

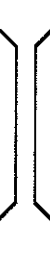
*Referenced to the North American Vertical Datum of 1988



Cross section line



Transect line



Bridge



MAP SCALE 1" = 500'



50 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0217F

FIRM

FLOOD INSURANCE RATE MAP
HAMILTON COUNTY,
OHIO
AND INCORPORATED AREAS

PANEL 217 OF 390

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX

CINCINNATI, CITY OF 380210 0217 F

SAINT BERNARD, CITY OF 380235 0217 F

Notes to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
39061C0217F

MAP REVISED
FEBRUARY 16, 2012

Federal Emergency Management Agency

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

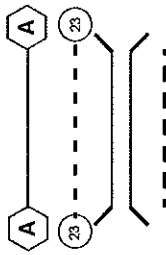
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*

Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

(EL 10)



85° 03' 45.0", 41° 24' 22.5"

4587'000 M

2250000 FT

KA0015 X

● M1.5

River Mile

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP

May 17, 2004

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

February 17, 2010 - to update corporate limits, to change Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issues Letters of Map Revision.

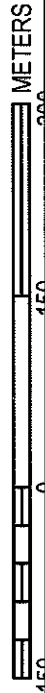
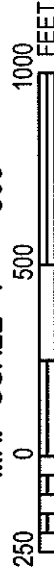
February 16, 2012 - to change map notes to reflect the accreditation of formerly provisionally-accredited levees and floodwalls.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'



National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'



NFIP

FIRM

FLOOD INSURANCE RATE MAP
HAMILTON COUNTY,
OHIO

AND INCORPORATED AREAS

PANEL 217 OF 390

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CINCINNATI, CITY OF	390210	0217	F
SAINT BERNARD, CITY OF	390235	0217	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER

39061C0217F

MAP REVISED

FEBRUARY 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

PCB STORAGE AREA

PCB STORAGE AREA

FIGURE 6A

Maximum Storage

80 Drums x 55 gal/ea. = 4400 gals
 4 x 9.5 cu.ft. Transformers x 7.48 gal/cu.ft. = 284 gals
 Total gallons = 4684 gals

Containment Capacity

20' x 24' x 8/12 x 7.48 gal/sq.ft. Storage Area = 2394 gals

Less 32" x 32" Column Displacement split by curb
 2.67' x 2.67' x 8/12' x 4/2 x 7.48 gal/sq.ft. = - 71 gals

Less Pallet Displacement
 15 Pallets x 4' x 4' x 5/12' x 0.5 x 7.48 gal/sq.ft. = - 377 gals

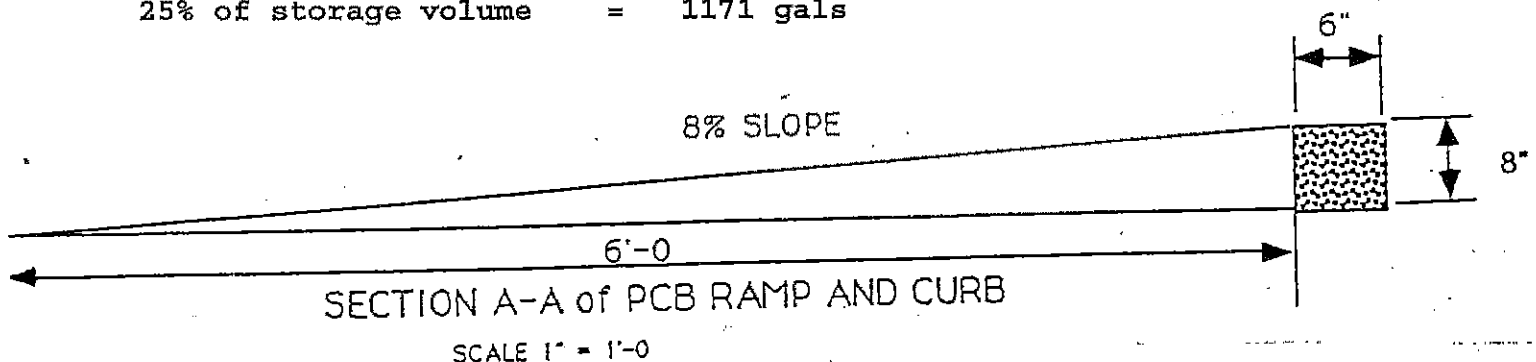
Less 80/2 Drum Displacement
 40 Drums x 1.25' x 1.25' x 3.14 x 3/12' x 7.48 gal/sq.ft. = - 367 gals

Less Transformer Displacement
 4 Transformers x 9.5 sq.ft. x 7.48 gal/sq.ft. = - 284 gals

Total Capacity 1099 gals

Net Containment at 8" Depth:
 2394 gals - 1099 gals = 1295 gals

Minimum Regulatory Requirement:
 25% of storage volume = 1171 gals



ENVIRONMENTAL ENTERPRISES, INC.
 4600 SPRING GROVE AVENUE
 CINCINNATI, OH 45232

ANNEX BUILDING
 PCB CONTAINER STORAGE

MAY 24, 1995

-SILOXIRANE®-C2033-

AMBIENT CURE PROTECTIVE LINING FOR CEMENT CONTAINMENT AREAS,
DIKES FLOORS, PITS, ETC. HANDLING SOLVENTS, ACIDS, CAUSTICS

Description:

Siloxirane® C2033 is a two component lining system having a cross-linked organic-inorganic (SiO backbone with Penta (5) oxirane end caps) polymer base. C2033 has a very dense carbon-oxygen-carbon crosslinked molecular structure. The absence of problematic hydroxyl and ester groups makes Siloxirane impervious to:

Acids	Alkalies	Solvents
Sulphuric	Sodium	Methylene
Hydrochloric	Hydroxide	Chloride
Nitric	Potassium	Methanol
Glacial Acetic	Hydroxide	MEK
Phosphoric	Hypocrites	Acetone
		DMF

Siloxirane C2033NS is a non-skid version of C2033 containing a specially treated oxide that chemically bonds with the Siloxirane polymer.

Applications:

Siloxirane C2033 is an ambient cured lining (60°F and above) that can be applied by spraying, roller, brush or trowel. Siloxirane C2033 is a surface tolerant coating and will bond to cement, steel, glass, wood, plastics, etc. C2033 will bond to damp, moist, slightly oily, rusty, surfaces. Although Siloxirane C2033 is surface tolerant old concrete sealers have to be removed from the surface prior to applying coating. For outstanding adhesion a clean, blasted surface is preferred.

Cure Time:

@ 75 of (24°C)	Foot traffic	12 hours
	Vehicle traffic	24 hours
	Chemical Service	5 to 7 days

SUMMARY OF BENEFITS

- Broad range of chemical resistance
- Steam cleanable
- Unique temperature span: 80°F to +200°F
- Non-absorbent
- Capable of handling impact of dropped drums and dragged forks
- Maintains a tough, hard surface
- Easily patched by maintenance personnel
- Outstanding abrasion wear resistance
- Excellent adhesion, even with flexing
- Complies with FDA 21 CFR 177.2420

Areas of Usage

- Solvent containment pits and dikes
- Waste acid pits
- Acid troughs
- Oil and gasoline containment areas
- Gasohol containment areas
- Acid tank containment dikes
- Corrosion resistant flooring
- Tank coatings
- Coating of steel structures

Typical Properties

	C2033	C2033NS
Finish	Oyster White	Gray
Weight per Gallon	11.0 lbs.	16.6 lbs.
V.O.C. Level/Gal	0.85 lbs. 9.6 gms/ml	0.47 lbs. 4.8 gms/ml
Lead Content	Zero	Zero
Pot Life (75°F) (24°C)	1lb. Mass - 120 mins. 3 Gals - 45 mins.	
Viscosity	300-500 Cps	
Flash Point	53°C	53°C
Solids By Volume	87.4%	95.0%
Solids By Weight	94.0%	99.0%
Chromate Content	Zero	Zero
Practical Coverage (sq. ft. per Gallon)	65	40
Recommended Film Thickness (dry) mils	20-22	34-35
Shelf Life	One Year minimum when stored at 50-90°F (10-32°C)	



ADVANCED
POLYMER SCIENCES, INC.

AVON, OHIO 44011 USA

800 334-7193

TELEX 985504

FAX 216/937-5046

-SILOXIRANE®-C2033-

Performance and Economical Excellence

PERFORMANCE

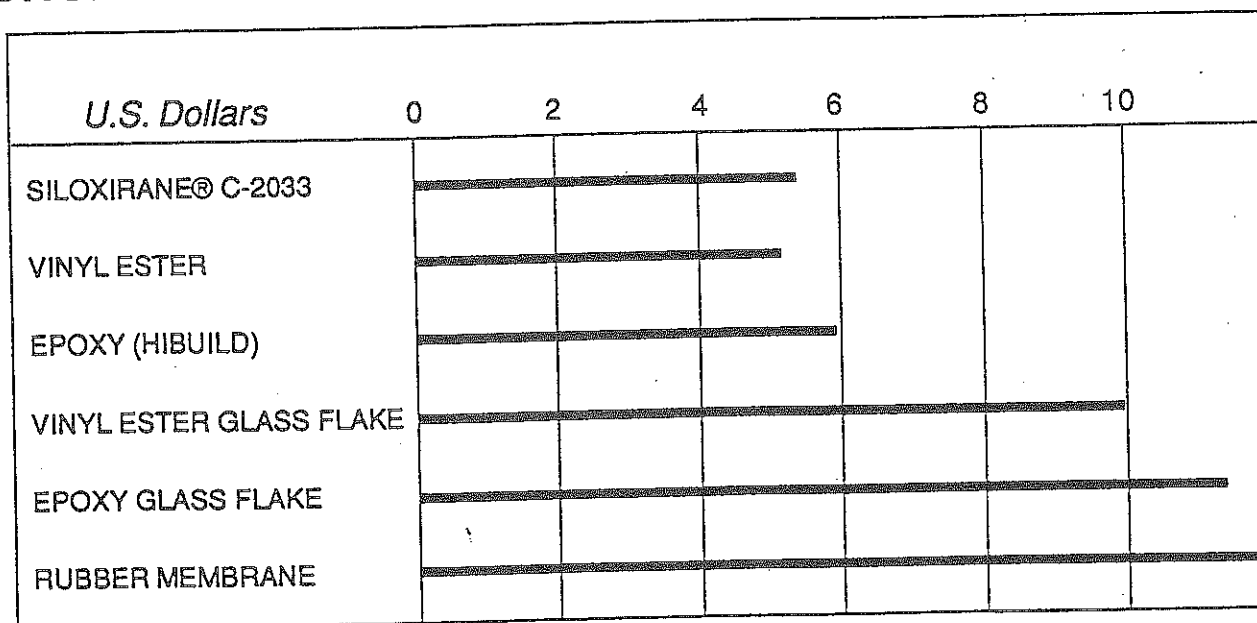
	Glacial Acetic Acid	Acetone	Ammonium Chloride	Ammonium Hydroxide	Benzene	Black Liquor (Paper)	Bromine Water	Carbon Tetrachloride	Chlorine Water	Chlorobenzene	Chromic Acid, 30%	Dichlorobenzene	Dimethylformamide	Ethanol	Formaldehyde	Furfural Alcohol	Gasoline	Hydraulic Oil	Hydrochloric Acid, 0-37%	Jet Fuel	Kerosene	Methanol	Methylene Chloride	MEK	MIBK	Monochloroacetic Acid	Nickel Plating	Nitric Acid, 50%	Sodium Chloride	Sodium Hydroxide	Sulfite Liquor (Paper)	Sulfuric Acid, 0-70%	Sulfuric Acid, 70-98%	Toluene	Trichloroethylene	White Liquor (Paper)	
SILOXIRANE C-2033	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
VINYL ESTER	N	N	A	A	A	N	A	A	A	N	N	N	A	A	L	A	A	A	A	A	L	N	L	L	N	A	L	A	N	A	A	A	N	A	N	A	
EPOXY (HIBUILD)	N	N	A	A	N	A	N	N	N	A	N	N	N	A	A	N	A	L	A	N	A	N	N	N	N	N	A	N	A	L	N	A	A	N	A	N	A
RUBBER	L	N	A	A	N	A	N	N	A	N	A	N	L	N	N	N	L	A	L	L	N	N	N	N	N	N	A	A	A	N	A	A	A	N	N	L	

A = Good at ambient temperatures
L = Limited Service

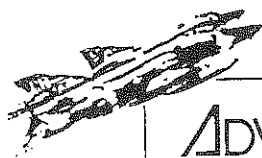
N = Not recommended
- = No information

ECONOMY

Total Applied Cost per Square Foot



• Based on 4000 square foot area-2 coat application on concrete surface.



ADVANCED
POLYMER SCIENCES, INC.

AVON, OHIO 44011 USA

800 334-7193

TELEX 985504

FAX 216 937-5046

—SILOXIRANE®—C2033—

PHYSICAL PROPERTIES

Tensile Strength (ASTM D638)	75°F	11,340 p.s.i.	Hardness	75-78 Barcol
Flexural Strength		18,650 p.s.i.	Permeability-Vapor	0.0000 gm.
Flexural Modulus (ASTM D790)		816 k.s.i.	Transmission of Water	per sq. ft. per 7 days
			at 90°C for 7 Days	per inch thickness
Elongation	75°F	11.2%	Impact Resistance (ASTM D2794)	37 in/lbs
Water Absorbtion (ASTM D570)	(30 days in 88°C Water)	0.25%	U.V. Light Resistance (ASTM G53)	40+ years

APPLICATION DATA

SURFACE PREPARATION

Sandblast with clear sand or grit to obtain an anchor pattern. All oils, soluble salts and loose concrete must be removed and the surface degreased. Concrete must have cured at least 30 days at 70°F.

MIXING INSTRUCTIONS

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. (1) Thoroughly mix the contents of Part A with a power agitator until uniform consistency and color is obtained. Be sure that any solids that may have settled through storage have been put back in suspension. (2) Slowly combine the contents of activator with previously mixed Part A. (3) Thoroughly mix the two parts until a uniform consistency and color is obtained. (4) Use immediately due to short pot life.

LIMITATIONS

Apply in good weather when the air and surface temperatures are above 60°F. Surface temperatures must be at least 5° above the dew point. For optimum application properties, bring material to 70°-90°F prior to mixing and application. Increased temperatures will result in shorter pot life.

APPLICATION

C2033

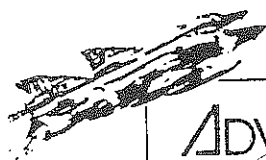
Airless spray equipment with 30:1 pump ratio @ 80-100 lbs. to achieve 2400-3000 p.s.i. tip pressure. Reverse-A-Clean tip .019 to .023, with 3/8" fluid hose, 1/4" by 6' whip hose, with a maximum of 100 linear feet. This coating is a low VOC compliance material. If conditions require a viscosity adjustment, thin with MEK.

C2033NS

Brush, Roll or Trowel

CLEAN UP SOLVENT

Acetone, MEK



ADVANCED
POLYMER SCIENCES INC.

AVON, OHIO 44011 USA

800 334 7193

TELEX 985504

FAX 216 937-5046

—SILOXIRANE®— C2033—

AMBIENT CURE PROTECTIVE LINING FOR CEMENT CONTAINMENT AREAS,
DIKES FLOORS, PITS, ETC. HANDLING SOLVENTS, ACIDS, CAUSTICS

APPLICATION DATA (cont.)

CURE TIME AND TEMPERATURE Curing at Ambient Temperatures
The temperature should be at 60°F or above. Lining will lose tackiness and become hard in 2 to 4 hours, depending on the prevailing temperature. Full curing will occur in 2 to 7 days, depending on temperature. Allow second coat to dry 24 hours before walking or driving on it.

HANDLING PRECAUTIONS Solvents and chemicals are contained in this product. Consult the Material Safety Data Sheet for details. Adequate safety and health precautions should be taken during handling, application and drying of this product. This material should be applied under local, state and federal regulations and in accordance with OSHA and ANSI bulletins on safety requirements.

PACKAGING 3 Gallons Kit Consists of:
3 gallons Resin
40 oz. Catalyst

The furnishing of the information contained herein does not constitute a representation by Advanced Polymer Sciences, Inc. that any product or process is free from patent infringement claims of any third party, nor does it constitute the grant of a license under any patent of Advanced Polymer Sciences, Inc. or any third party. Advanced Polymer Sciences, Inc. assumes no liability for any infringement which may arise out of the use of the product. Advanced Polymer Sciences warrants that its products meet the specifications which it set for them. Advanced Polymer Sciences, Inc. DISCLAIMS ALL OTHER WARRANTIES and relating to the products and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION expressed or implied INCLUDING but not limited to warranties of MERCHANT ABILITY AND FITNESS for particular purpose. Receipt of products from Advanced Polymer Sciences, Inc. constitutes acceptance of the terms of the Warranty; contrary provisions of purchase orders notwithstanding. In the event that Advanced Polymer Sciences, Inc. finds that products delivered are off-specification, Advanced Polymer Sciences, Inc. will at its sole discretion, either replace the products or refund the purchase price thereof, Advanced Polymer Sciences, Inc. choice of one of these remedies shall be Buyer's sole remedy. Advanced Polymer Sciences, Inc. will under no circumstances be liable upon for consequential damages except in so far as liability is mandated by law. Advanced Polymer Sciences, Inc. will deliver products at agreed upon times in so far as it is reasonably able to do so, but Advanced Polymer Sciences, Inc. shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.



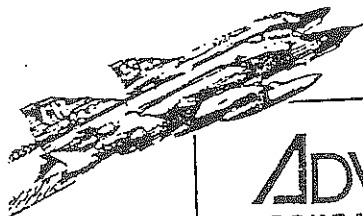
ADVANCED
POLYMER SCIENCES, INC.

AVON, OHIO 44011 USA

800-334-7193

TELEX 985504

FAX 216/937-5046



ADVANCED
POLYMER SCIENCES, INC.

SILOXIRANE PRODUCT INFORMATION

SILOXIRANE[®] Linings for the Storage of Chemicals

SILOXIRANE[®] A unique, tough, versatile protective material ... chemically described as an siloxirane oligimer of proprietary compositions ... giving industry corrosion/erosion control at an economical cost.

THREE PRIMARY MARKETS FOR SILOXIRANE[®] ARE:

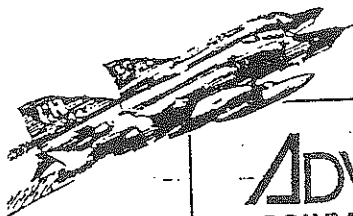
1. Chemical Manufacturing
2. Chemical Storage
3. Chemical Waste Disposal

FEATURES OF SILOXIRANE[®] LININGS:

- * Broadest Range of Chemical Resistance
 - acids, bases and solvents, from pH 1 to 14
- * Unique Temperature Span
 - can be utilized -80°F. to +500°F.
- * Coefficient of Expansion similar to Stainless Steel
 - can withstand thermal shock over a wide range of temperatures. Coating will expand and contract with the metal.
 - can be loaded hot even in the coldest weather.
- * Steam Cleanable
 - Allows thorough cleaning and ease of decontamination between uses.
 - An important feature when storing both hazardous waste and virgin chemicals.
- * Non Absorbent
 - Will not absorb water/chemicals even at elevated temperature and pressure.
 - Reduces the chance of load to load contamination.
 - Improves safety by reducing chances for unwanted chemical reactions.

continued (over) ...

- * Maintains a Hard Tough Surface
 - Under extreme temperatures
 - In concentrated or dilute acids and bases
 - All types of Solvents
- * Excellent Adhesion, Even with Flexing
 - Steel will permanently deform before coating is harmed.
- * Can be easily Patched by your own people
 - Saves time and money
- * Outstanding Abrasion Wear Resistance
 - Proven to be better than steel and rubber
 - Capable of handling slurries and sludges
- * SILOXIRANE[®] Linings Generate Profits
 - Can be used for virtually any chemical
 - Protects contents from contamination
 - Provides extended life



ADVANCED
POLYMER SCIENCES, INC.

SILOXIRANE PRODUCT INFORMATION

CHEMICAL RESISTANCE TABLE FOR SILOXIRANE C2033 AMBIENT CURED COATING

The following section contains a tabular listing of chemical reagents in which Siloxirane C2033 was immersed at a temperature of 80°F. (27°C) for a period of 6 months.

This guide is intended as an aid in determining the potential usefulness of Siloxirane C2033 as a protective barrier against chemical exposure. Each application should be evaluated according to its particular circumstances and conditions.

KEY: A = Suitable for constant immersion
B = Suitable for shorter term containment & continual spillage
C = Suitable for intermittent spills when followed promptly with water flushing
NR = Not Recommended
AP = Consult Advanced Polymer Sciences, Inc.

A

Acetic Acid, 10%	A
Acetic Acid, 30%	A
Acetic Acid, Glacial	A
Acetone	A
Acrylic Acid, up to 25%	A
Acrylonitrile	A
Alum	
(Aluminum Potassium Sulfate)	A
Aluminum Chloride	A
Aluminum Fluoride	A
Aluminum Hydroxide	A
Aluminum Nitrate	A
Aluminum Sulfate	A
Ammonia	A
Ammonium Bisulfite	A
Ammonium Chloride	A
Ammonium Hydroxide	A
Ammonium Nitrate	A
Ammonium Sulfate	A
n-Amyl Alcohol	A
Aniline	C

B

Barium Chloride	A
Barium Hydroxide	A
Barium Sulfate	A
Barium Sulfide	A
Benzene	A
Benzene Sulfonic Acid	A
Benzoic Acid	A
Black Liquor, Pulp Mill	A
Bleach Liquor, Pulp Mill	A
Boric Acid	A
Brine	A
Bromine, Liquid	C
Bromine Gas (Dry & Wet)	C
n-Butyl Alcohol	A
Butyl Cellosolve Solvent	A
n-Butyric Acid	B
Butyl Acetate	A

C

Cadmium Chloride	A
Calcium Chloride	A

D

I

A
A
A
A
A
B
A
B
B
B
A
C
A
A
A
B
A
A
A
A
A
A
A
A
A
A

A
A
A
B
A

A
A
B
A
A
A

G

1

11

—

Page 1

Kerosene

L

Lactic Acid	A
Lauryl Chloride	A
Lead Acetate	A
Linseed Oil	A
Lithium Bromide	A
Lithium Chloride	A
Lithium Hypochlorite	A
Lithium Hydroxide	A

M

Magnesium Bisulfite	A
Magnesium Carbonate	A
Magnesium Chloride	A
Magnesium Sulfate	A
Maleic Acid	A
Mercuric Chloride	A
Mercurous Chloride	A
Methyl Alcohol	A
Methyl Ethyl Ketone	A
Methylene Chloride	A
Mineral Spirits	A
Monochloroacetic Acid	A
Muriatic Acid	A

N

Naphtha	A
Naphthalene	A
Nitric Acid, 5%	A
Nitric Acid, 30%	B
Nitric Acid, 50%	C
Nitric Acid/Sulfuric Acid	C
Nitrobenzene	B
n-Octyl Alcohol	A

O

Oils	A
Oleum	B
Oleic Acid	A
Oxalic Acid	A

P

Perchloroethylene	A
Perchloric Acid	B
Phenol	B
Phosphoric Acid, 50%	A
Phosphoric Acid, 85%	A
Phosphorous Acid	B
Potassium Carbonate	A
Potassium Chloride	A
Potassium Dichromate	A
Potassium Hydroxide	A
Potassium Nitrate	A
Propionic Acid	A

S

Seawater	A
Silver Nitrate	A
Sodium Acetate	A
Sodium Bicarbonate	A
Sodium Bisulfate	A
Sodium Bisulfite	A
Sodium Carbonate	A
Sodium Chloride	A
Sodium Chlorite	A
Sodium Hydroxide, 10%	A
Sodium Hydroxide, 50%	A
Sodium Hypochlorite	A
Sodium Sulfate	A
Sodium Sulfide	A
Stannic Chloride	A
Stannous Chloride	A
Stearic Acid	A
Styrene	A
Sugar/Sucrose	A
Sulfur Dioxide	A
Sulfuric Acid, 10%	A
Sulfuric Acid, 50%	A
Sulfuric Acid, 98%	A

Page Four

T

Tall Oil
Tannic Acid
Tartaric Acid
Tetrahydrofuran
Toluene
Toluene Sulfonic Acid
Trichloroethylene
Trisodium Phosphate

A
A
A
A
A
A
A
A

W

Water, Deionized
Water, Demineralized
Water, Distilled

A
A
A

X

Xylene

A

U

Urea

A

Z

Zinc Chloride
Zinc Sulfate

A
A

When significant amounts of trace impurities or combination of chemicals are to be resisted we encourage our customers to test a sample under actual or simulated use conditions before a final decision on the suitability of C2033 is made.

Advanced Polymer Sciences, Inc. can provide corrosion test coupons for customers to expose under actual service conditions or in the laboratory.

The furnishing of the information contained herein does not constitute a representation by Advanced Polymer Sciences, Inc. that any product or process is free from patent infringement claims of any third party nor does it constitute the grant of a license under any patent of Advanced Polymer Sciences, Inc. or any third party. Advanced Polymer Sciences, Inc. assumes no liability for any infringement which may arise out of the use of the product. Advanced Polymer Sciences warrants that its products meet the specification which it set for them. Advanced Polymer Sciences, Inc. DISCLAIMS ALL OTHER WARRANTIES relating to the products and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION expressed or implied INCLUDING but not limited to warranties of MERCHANTABILITY AND FITNESS for particular purpose. Receipt of products from Advanced Polymer Sciences, Inc. constitute acceptance of the terms of the Warranty contrary provisions of purchase orders notwithstanding. In the event that Advanced Polymer Sciences, Inc. finds that products delivered are off-specification, Advanced Polymer Sciences, Inc. will, at its sole discretion, either replace the products or refund the purchase price thereof and Advanced Polymer Sciences, Inc.'s choice of one of these remedies shall be Buyer's sole remedy. Advanced Polymer Sciences, Inc. will under no circumstances be liable for consequential damages except insofar as it is reasonably able to do so, but Advanced Polymer Sciences, Inc. shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.

SAMPLING PLAN

"APPENDIX A"

§ 761.123

40 CFR Ch. I (7-1-92 Edition)

(vi) Spills that contaminate vegetable gardens.

(e) *Relationship of policy to other statutes.* (1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed, or to be imposed, under other Federal statutory authorities, including but not limited to, the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Where more than one requirement applies, the stricter standard must be met.

(2) The Agency recognizes that the existence of this policy will inevitably result in attempts to apply the standards to situations within the scope of other statutory authorities. However, other statutes require the Agency to consider different or alternative factors in determining appropriate corrective actions. In addition, the types and magnitudes of exposures associated with sites requiring corrective action under other statutes often involve important differences from those expected of the typical, electrical equipment-type spills considered in developing this policy. Thus, cleanups under other statutes, such as RCRA corrective actions or remedial and response actions under SARA may result in different outcomes.

§ 761.123 Definitions.

For purposes of this policy, certain words and phrases are used to denote specific materials, procedures, or circumstances. The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy.

Double wash/rinse means a minimum requirement to cleanse solid surfaces (both impervious and nonimpervious) two times with an appropriate solvent or other material in which PCBs are at least 5 percent soluble (by weight). A volume of PCB-free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse. The wash/rinse requirement does not mean the mere

spreading of solvent or other fluid over the surface, nor does the requirement mean a once-over wipe with a soaked cloth. Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing.

High-concentration PCBs means PCBs that contain 500 ppm or greater PCBs, or those materials which EPA requires to be assumed to contain 500 ppm or greater PCBs in the absence of testing.

High-contact industrial surface means a surface in an industrial setting which is repeatedly touched, often for relatively long periods of time. Manned machinery and control panels are examples of high-contact industrial surfaces. High-contact industrial surfaces are generally of impervious solid material. Examples of low-contact industrial surfaces include ceilings, walls, floors, roofs, roadways and sidewalks in the industrial area, utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components, indoor vaults, and pipes.

High-contact residential/commercial surface means a surface in a residential/commercial area which is repeatedly touched, often for relatively long periods of time. Doors, wall areas below 6 feet in height, uncovered flooring, windowsills, fencing, bannisters, stairs, automobiles, and children's play areas such as outdoor patios and sidewalks are examples of high-contact residential/commercial surfaces. Examples of low-contact residential/commercial surfaces include interior ceilings, interior wall areas above 6 feet in height, roofs, asphalt roadways, concrete roadways, wooden utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components (e.g., aluminum/vinyl siding, cinder block, asphalt tiles), and pipes.

Impervious solid surfaces means solid surfaces which are nonporous and thus unlikely to absorb spilled PCBs within the short period of time required for cleanup of spills under this policy. Impervious solid surfaces

include, but are not limited to, metals, glass, aluminum siding, and enameled or laminated surfaces.

Low-concentration PCBs means PCBs that are tested and found to contain less than 500 ppm PCBs, or those PCB-containing materials which EPA requires to be assumed to be at concentrations below 500 ppm (i.e., untested mineral oil dielectric fluid).

Nonimpervious solid surfaces means solid surfaces which are porous and are more likely to absorb spilled PCBs prior to completion of the cleanup requirements prescribed in this policy. Nonimpervious solid surfaces include, but are not limited to, wood, concrete, asphalt, and plasterboard.

Nonrestricted access areas means any area other than restricted access, outdoor electrical substations, and other restricted access locations, as defined in this section. In addition to residential/commercial areas, these areas include unrestricted access rural areas (areas of low density development and population where access is uncontrolled by either man-made barriers or naturally occurring barriers, such as rough terrain, mountains, or cliffs).

Other restricted access (nonsubstation) locations means areas other than electrical substations that are at least 0.1 kilometer (km) from a residential/commercial area and limited by man-made barriers (e.g., fences and walls) to substantially limited by naturally occurring barriers such as mountains, cliffs, or rough terrain. These areas generally include industrial facilities and extremely remote rural locations. (Areas where access is restricted but are less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.)

Outdoor electrical substations means outdoor, fenced-off, and restricted access areas used in the transmission and/or distribution of electrical power. Outdoor electrical substations restrict public access by being fenced or walled off as defined under § 761.30(1)(1)(ii). For purposes of this TSCA policy, outdoor electrical substations are defined as being located at least 0.1 km from a residential/commercial area. Outdoor fenced-off and restricted access areas used in the transmission and/or distribution

of electrical power which are located less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.

PCBs means polychlorinated biphenyls as defined under § 761.3. As specified under § 761.1(b), no requirements may be avoided through dilution of the PCB concentration.

Requirements and standards means:

(1) "Requirements" as used in this policy refers to both the procedural responses and numerical decontamination levels set forth in this policy as constituting adequate cleanup of PCBs.

(2) "Standards" refers to the numerical decontamination levels set forth in this policy.

Residential/commercial areas means those areas where people live or reside, or where people work in other than manufacturing or farming industries. Residential areas include housing and the property on which housing is located, as well as playgrounds, roadways, sidewalks, parks, and other similar areas within a residential community. Commercial areas are typically accessible to both members of the general public and employees and include public assembly properties, institutional properties, stores, office buildings, and transportation centers.

Responsible party means the owner of the PCB equipment, facility, or other source of PCBs or his/her designated agent (e.g., a facility manager or foreman).

Soil means all vegetation, soils and other ground media, including but not limited to, sand, grass, gravel, and oyster shells. It does not include concrete and asphalt.

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases. This policy applies to spills of 50 ppm or greater PCBs. The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concentration of PCBs in the material onto

which the PCBs were spilled. Where a spill of untested mineral oil occurs, the oil is presumed to contain greater than 50 ppm, but less than 500 ppm PCBs and is subject to the relevant requirements of this policy.

Spill area means the area of soil on which visible traces of the spill can be observed plus a buffer zone of 1 foot beyond the visible traces. Any surface or object (e.g., concrete sidewalk or automobile) within the visible traces area or on which visible traces of the spilled material are observed is included in the spill area. This area represents the minimum area assumed to be contaminated by PCBs in the absence of precleanup sampling data and is thus the minimum area which must be cleaned.

Spill boundaries means the actual area of contamination as determined by postcleanup verification sampling or by precleanup sampling to determine actual spill boundaries. EPA can require additional cleanup when necessary to decontaminate all areas within the spill boundaries to the levels required in this policy (e.g., additional cleanup will be required if postcleanup sampling indicates that the area decontaminated by the responsible party, such as the spill area as defined in this section, did not encompass the actual boundaries of PCB contamination).

Standard wipe test means, for spills of high-concentration PCBs on solid surfaces, a cleanup to numerical surface standards and sampling by a standard wipe test to verify that the numerical standards have been met. This definition constitutes the minimum requirements for an appropriate wipe testing protocol. A standard-size template (10 centimeters (cm) x 10 cm) will be used to delineate the area of cleanup; the wiping medium will be a gauze pad or glass wool of known size which has been saturated with hexane. It is important that the wipe be performed very quickly after the hexane is exposed to air. EPA strongly recommends that the gauze (or glass wool) be prepared with hexane in the laboratory and that the wiping medium be stored in sealed glass vials until it is used for the wipe test. Fur-

ther, EPA requires the collection and testing of field blanks and replicates.

[52 FR 10705, Apr. 2, 1987; 52 FR 23397, June 19, 1987]

§ 761.125 Requirements for PCB spill cleanup.

(a) *General*. Unless expressly limited, the reporting, disposal, and precleanup sampling requirements in paragraphs (a) (1) through (3) of this section apply to all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA, including those spills listed under § 761.120(b) which are excluded from the cleanup standards at paragraphs (b) and (c) of this section.

(1) *Reporting requirements*. The reporting in paragraphs (a)(1) (i) through (iv) of this section is required in addition to applicable reporting requirements under the Clean Water Act (CWA) or the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA). For example, under the National Contingency Plan all spills involving 10 pounds or more by weight of PCBs must currently be reported to the National Response Center (1-800-424-8802). The requirements in paragraphs (a)(1) (i) through (iv) of this section are designed to be consistent with existing reporting requirements to the extent possible so as to minimize reporting burdens on governments as well as the regulated community.

(i) Where a spill directly contaminates surface water, sewers, or drinking water supplies, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Prevention, Pesticides and Toxic Substances Branch) and obtain guidance for appropriate cleanup measures in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(ii) Where a spill directly contaminates grazing lands or vegetable gardens, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Prevention, Pesticides and Toxic Substances Branch) and proceed

Quality Assurance Manual

TestAmerica Dayton

4738 Gateway Circle

Dayton, OH 45440

Phone No. 937-294-6856

Fax No. 937-499-1249

www.testamericainc.com

Copyright Information:

This documentation has been prepared by TestAmerica Laboratories, Inc. and its affiliates ("TestAmerica"), solely for their own use and the use of their customers in evaluating their qualifications and capabilities in connection with a particular project. The user of this document agrees by its acceptance to return it to TestAmerica upon request and not to reproduce, copy, lend, or otherwise disclose its contents, directly or indirectly, and not to use it for any other purpose other than that for which it was specifically provided. The user also agrees that where consultants or other outside parties are involved in the evaluation process, access to these documents shall not be given to said parties unless those parties also specifically agree to these conditions.

THIS DOCUMENT CONTAINS VALUABLE CONFIDENTIAL AND PROPRIETARY INFORMATION. DISCLOSURE, USE OR REPRODUCTION OF THESE MATERIALS WITHOUT THE WRITTEN AUTHORIZATION OF TESTAMERICA IS STRICTLY PROHIBITED. THIS UNPUBLISHED WORK BY TESTAMERICA IS PROTECTED BY STATE AND FEDERAL LAW OF THE UNITED STATES. IF PUBLICATION OF THIS WORK SHOULD OCCUR THE FOLLOWING NOTICE SHALL APPLY:


©COPYRIGHT 2012 TESTAMERICA LABORATORIES, INC. ALL RIGHTS RESERVED.

Facility Distribution No. _____

Distributed To: _____

U
N
C
Title Page:


Quality Assurance Manual
Approval Signatures


Laboratory Director – Tara Schlenker

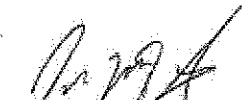
05/08/12
Date


Quality Assurance Manager – Violet Fanning

05/08/12
Date


Technical Manager, (Metals) – Keith Hutchison

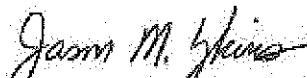
05/10/12
Date


Technical Manager, (Organics) – Josh McKinney

05/09/12
Date


Technical Manager, (Wet Chemistry) – Ron Paulick

05/10/12
Date


EH&S Officer – Jason Lykins

05/10/12
Date

SECTION 2. TABLE OF CONTENTS

Sec. No.	Title	2009 TNI Standard Reference	ISO/IEC 17025:2005 (E) Reference	Page No.
-	COVERPAGE	V1M2 Sec. 4.2.8.3		1
1.0				1
2.0	TABLE OF CONTENTS	V1M2 Secs. 4.2.8.3-4.2.8.4		3
3.0	INTRODUCTION, SCOPE AND APPLICABILITY	V1M2 Sec. 4.2.8.4		13
3.1	Introduction And Compliance References	V1M2 Secs. 1.1; 1.2; 2.0; 3.2; 4.1.2; 4.2.4	4.1.2; 4.2.4	13
3.2	Terms And Definitions	V1M2 Secs. 3.0; 4.2.4	4.2.4	13
3.3	Scope / Fields Of Testing	V1M2 Secs. 1.2; 4.2.4	4.1.2; 4.2.4	14
3.4	Management Of The Manual	V1M2 Secs. 4.2.1; 4.2.7; 4.3.3.2; 4.3.3.3	4.2.1; 4.2.7; 4.3.3.2; 4.3.3.3	14
4.0	MANAGEMENT REQUIREMENTS	V1M2 Sec. 4		15
4.1	Overview	V1M2 Secs. 4.1.1; 4.1.3; 4.1.5	4.1.1; 4.1.3; 4.1.5; 4.2.6	15
4.2	Roles And Responsibilities	V1M2 Secs. 4.1.1; 4.1.5; 4.1.6; 4.2.1; 4.2.6; 5.2.4	4.1.3; 4.1.5; 4.1.6; 4.2.1; 4.2.6; 5.2.4	15
4.3	Deputies	V1M2 Secs. 4.1.5; 4.1.7.2; 4.2.7	4.1.5; 4.2.7	21
5.0	QUALITY SYSTEM			24
5.1	Quality Policy Statement	V1M2 Secs. 4.1.5; 4.2.2; 4.2.3; 4.2.8.3	4.1.5; 4.2.2; 4.2.3	24
5.2	Ethics And Data Integrity	V1M2 Secs. 4.1.5; 4.1.6; 4.2.2; 4.2.8.1; 5.2.7	4.1.5; 4.2.2	24
5.3	Quality System Documentation	V1M2 Secs. 4.1.5; 4.2.2; 4.2.5	4.2.2; 4.2.5	25
0	QA/QC Objectives For The Measurement Of Data	V1M2 Sec. 4.2.2	4.1.5; 4.2.2	26
5.5	Criteria For Quality Indicators			28
5.6	Statistical Quality Control			28
5.7	Quality System Metrics			28
6.0	DOCUMENT CONTROL	V1M2 Secs. 4.2.7; 4.3.1; 4.3.2.2; 4.3.3.3; 4.3.3.4	4.2.7; 4.3.1; 4.3.2.2; 4.3.3.3; 4.3.3.4	29
6.1	Overview			29

Sec. No.	Title	2009 TNI Standard Reference	ISO/IEC 17025:2005 (E) Reference	Page No.
6.2	Document Approval And Issue	V1M2 Secs. 4.3.2; 4.3.2.1-4.3.2.3; 4.3.3.1	4.3.2.1; 4.3.2.2; 4.3.2.3; 4.3.3.1	29
6.3	Procedures For Document Control Policy	V1M2 Secs. 4.3.2.1-4.3.2.2; 4.3.3.1	4.3.2.1; 4.3.2.2; 4.3.3.1	30
6.4	Obsolete Documents	V1M2 Secs. 4.3.2.1-4.3.2.2	4.3.2.1; 4.3.2.2	30
7.0	SERVICE TO THE CLIENT	V1M2 Secs. 4.4.1 - 4.4.4	4.4.1; 4.4.2; 4.4.3; 4.4.4	30
7.1	Overview	V1M2 Secs. 4.4.5; 4.5.5; 5.7.1	4.4.5; 5.7.1	30
7.2	Review Sequence And Key Personnel	V1M2 Sec. 4.4.5	4.4.5	31
7.3	Documentation	V1M2 Sec. 5.7.1	5.7.1	32
7.4	Special Services	V1M2 Secs. 4.7.1-4.7.2	4.7.1; 4.7.2	33
7.5	Client Communication	V1M2 Secs. 4.7.1-4.7.2	4.7.1; 4.7.2	34
7.6	Reporting	V1M2 Secs. 4.7.1-4.7.2	4.7.1; 4.7.2	34
7.7	Client Surveys	V1M2 Secs. 4.7.1-4.7.2	4.7.1; 4.7.2	34
8.0	SUBCONTRACTING OF TESTS	V1M2 Secs. 4.4.3; 4.5.4	4.4.3; 4.5.4	34
8.1	Overview	V1M2 Secs. 4.5.1-4.5.3; 4.5.5; 5.3.1	4.5.1; 4.5.2; 4.5.3; 5.3.1	34
8.2	Qualifying And Monitoring Subcontractors	V1M2 Secs. 4.5.1; 4.5.2; 4.5.3; 4.5.5	4.5.1; 4.5.2; 4.5.3	35
8.3	Oversight And Reporting	V1M2 Sec. 4.5.5		36
8.4	Contingency Planning			37
9.0	PURCHASING SERVICES AND SUPPLIES	V1M2 Sec. 4.6.1	4.6.1	38
9.1	Overview	V1M2 Secs. 4.6.2; 4.6.3; 4.6.4	4.6.2; 4.6.3; 4.6.4	38
9.2	Glassware	V1M2 Sec. 5.5.13.1		38
9.3	Reagents, Standards & Supplies	V1M2 Secs. 4.6.2; 4.6.3; 4.6.4	4.6.2; 4.6.3; 4.6.4	38
9.4	Purchase Of Equipment / Instruments / Software			40
9.5	Services			41
9.6	Suppliers			41
10.0	COMPLAINTS	V1M2 Sec. 4.8	4.8	42
10.1	Overview			42
10.2	External Complaints			42
10.3	Internal Complaints			43
10.4	Management Review			43

Sec. No.	Title	2009 TNI Standard Reference	ISO/IEC 17025:2005 (E) Reference	Page No.
11.0	CONTROL OF NON-CONFORMING WORK	V1M2 Secs. 4.9.1; 5.10.5	4.9.1; 5.10.5	43
11.1	Overview	V1M2 Secs. 4.9.1; 4.11.3; 4.11.5	4.9.1; 4.11.3; 4.11.5	43
11.2	Responsibilities And Authorities	V1M2 Secs. 4.9.1; 4.11.3; 4.11.5; 5.2.7	4.9.1; 4.11.3; 4.11.5	44
11.3	Evaluation Of Significance And Actions Taken	V1M2 Secs. 4.9.1; 4.11.3; 4.11.5	4.9.1; 4.11.3; 4.11.5	45
11.4	Prevention Of Nonconforming Work	V1M2 Secs. 4.9.4; 4.11.2	4.9.2; 4.11.2	45
11.5	Method Suspension / Restriction (Stop Work Procedures)	V1M2 Secs. 4.9.1; 4.9.2; 4.11.5	4.9.1; 4.9.2; 4.11.5	45
12.0	CORRECTIVE ACTION	V1M2 Sec. 4.11		46
12.1	Overview	V1M2 Secs. 4.9.2; 4.11.1; 4.11.2	4.9.2; 4.11.1; 4.11.2	46
12.2	General	V1M2 Sec. 4.11.2; 4.11.3	4.11.2; 4.11.3	46
12.3	Closed Loop Corrective Action Process	V1M2 Sec. 4.11.2; 4.11.3; 4.11.4; 4.11.6; 4.11.7; 4.12.2	4.11.2; 4.11.3; 4.11.4; 4.12.2	47
12.4	Technical Corrective Actions	V1M2 Sec. 4.11.6		49
12.5	Basic Corrections	V1M2 Secs. 4.11.1; 4.13.2.3	4.11.1; 4.13.2.3	49
13.0	PREVENTIVE ACTION / IMPROVEMENT	V1M2 Secs. 4.10; 4.12.1; 4.12.2	4.10; 4.12.1; 4.12.2	54
13.1	Overview	V1M2 Secs. 4.15.1; 4.15.2	4.15.1; 4.15.2	54
14.0	CONTROL OF RECORDS	V1M2 Secs. 4.2.7; 4.13.1.1; 4.13.3	4.2.7; 4.13.1.1	55
14.1	Overview	V1M2 Secs. 4.13.1.1; 4.13.1.2; 4.13.1.3; 4.13.1.4; 4.13.2.1; 4.13.2.2; 4.13.2.3; 4.13.3	4.13.1.1; 4.13.1.2; 4.13.1.3; 4.13.1.4; 4.13.2.1; 4.13.2.2; 4.13.2.3	56
14.2	Technical And Analytical Records	V1M2 Sec. 4.13.2.2 - 4.13.2.3	4.13.2.2; 4.13.2.3	59
14.3	Laboratory Support Activities			60
14.4	Administrative Records			61
14.5	Records Management, Storage And Disposal	V1M2 Sec. 4.13.3		61
15.0	AUDITS			62

Sec. No.	Title	2009 TNI Standard Reference	ISO/IEC 17025:2005 (E) Reference	Page No.
15.1	Internal Audits	V1M2 Sec. 4.2.8.1; 4.14; 4.14.1; 4.14.2; 4.14.3; 4.14.5; 5.9.1; 5.9.2	4.14.1; 4.14.2; 4.14.3; 5.9.1; 5.9.2	62
15.2	External Audits	V1M2 Secs. 4.14.2; 4.14.3	4.14.2; 4.14.3; 4.14.4	63
15.3	Audit Findings	V1M2 Secs. 4.14.2; 4.14.3; 4.14.5		64
16.0	MANAGEMENT REVIEWS	V1M2 Sec. 4.1.6; 4.15; 4.15.1; 4.15.2	4.1.6; 4.15.1; 4.15.2	65
16.1	Quality Assurance Report			65
16.2	Annual Management Review	V1M2 Sec. 4.2.2; 4.15.3	4.2.2	65
16.3	Potential Integrity Related Managerial Reviews			66
17.0	PERSONNEL	V1M2 Secs. 5.2; 5.2.1	5.2.1	66
17.1	Overview	V1M2 Secs. 5.2.2; 5.2.3; 5.2.5	5.2.2; 5.2.3; 5.2.5	66
17.2	Education And Experience Requirements For Technical Personnel	V1M2 Secs. 5.2.1; 5.2.3; 5.2.4	5.2.1; 5.2.3; 5.2.4	67
17.3	Training	V1M2 Sec. 5.2.5	5.2.5	69
17.4	Data Integrity And Ethics Training Program	V1M2 Sec. 4.2.8.1; 5.2.7		70
18.0	ACCOMMODATIONS AND ENVIRONMENTAL CONDITIONS	V1M2 Sec. 5.3		71
18.1	Overview	V1M2 Secs. 5.3.1; 5.3.3; 5.3.4; 5.3.5	5.3.1; 5.3.3; 5.3.4; 5.3.5	71
18.2	Environment	V1M2 Secs. 5.3.1; 5.3.2; 5.3.3; 5.3.4; 5.3.5	5.3.1; 5.3.2; 5.3.3; 5.3.4; 5.3.5	71
18.3	Work Areas	V1M2 Secs. 5.3.3; 5.3.4; 5.3.5	5.3.3; 5.3.4; 5.3.5	72
18.4	Floor Plan			72
18.5	Building Security	V1M2 Sec. 5.3.4	5.3.4	72
19.0	TEST METHODS AND METHOD VALIDATION	V1M2 Sec. 5.4.1	5.4.1	62
19.1	Overview	V1M2 Sec. 5.4.1	5.4.1; 5.4.5.1	73